

METHOD, SYSTEM AND COMPUTER PROGRAM PRODUCT FOR
MULTIDISCIPLINARY DESIGN ANALYSIS OF STRUCTURAL
COMPONENTS

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ABSTRACT OF THE DISCLOSURE

The method, system and computer program product for design analysis of a component efficiently subject a finite element model of the component to the appropriate thermo-mechanical environment(s), evaluate the component's stress responses to the environmental loads, and compare the stress responses to pre-selected limits. In addition, the method, system and computer program product accurately identify potential failure points of the component and the interconnect structure of the component, identify the type of environmental load that caused the failure, prompt the user to modify the design or other user-defined parameter of the component, and further test a finite model of the modified component. Thus, the method, system and computer program product provide an economical and timely design analysis for components that enables users to determine the appropriate design for the components based upon the type of thermo-mechanical environment(s) to which the component will be subjected over its lifetime.

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